## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of forming a bond between members of a Micro-Electro-Mechanical System (MEMS), wherein the members each have mating surfaces at which the bond may be formed, the method comprising:

depositing a first layer of mating material on a first mating surface;

depositing a first layer of bonding material on the first layer of mating material ~~mating surface~~, wherein the first layer of bonding material is selected from the group consisting of gold and tin;

depositing a second layer of mating material on a second mating surface;

depositing a second layer of bonding material on the second layer of mating material ~~mating surface~~, wherein the second layer of bonding material is selected from the group consisting of indium and lead; and

pressing the first mating surface and the second mating surface together, thereby pressing the first layer of bonding material to the second layer of bonding material, thereby forming an alloy to serve as the bond between the mating surfaces of the members of the MEMS.

2. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together includes a Solid-Liquid InterDiffusion (SLID) bonding process.

3. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done at a temperature between about 20°C to about 200°C.



McDONNELL BOEHNEN
HULBERT & BERGHOFF
300 SOUTH WACKER DRIVE, 32ND FLOOR
CHICAGO, IL 60606
(312)913-0001

4. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch.

5. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done for about 6 hours.

6. (Currently Amended) The method of Claim 1, wherein the first layer of bonding material has a thickness between about 100 Angstroms to about 0.25 inches.

7. (Currently Amended) The method of Claim 1, wherein the second layer of bonding material has a thickness between about 50 Angstroms to about 0.125 inches.

8. (Original) The method of Claim 1, wherein the members of the MEMS are selected from the group consisting of a substrate, a micro-machine, a cover, and a micro-machine chip.

9. (Original) The method of Claim 8, wherein the cover is comprised of a material selected from the group consisting of a silicon, a glass and a ceramic material.

10. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch and at a temperature of about 100°C.



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HULBERT & BERGHOFF
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CHICAGO, IL 60606
(312)913-0001

11. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch and is done for about 6 hours.

12. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done for about 6 hours at a temperature of about 100°C.

13. (Canceled)

14. (Previously presented) The method of Claim 1, wherein the first layer of mating material and the second layer of mating material are comprised of layers of chromium each having a thickness between about 5 Angstroms to about 100 Angstroms.

15. (Original) The method of Claim 1, wherein pressing the first mating surface and the second mating surface together is done using an effective amount of pressure and temperature, for an effective amount of time to form the alloy to serve as the bond between the mating surfaces of the members of the MEMS.

16. (Previously presented) A method of forming a bond between members of a Micro-Electro-Mechanical System (MEMS), wherein the members each have mating surfaces at which the bond may be formed, the method comprising:

depositing a layer of gold on a first mating surface;



McDONNELL BOEHNEN
HULBERT & BERGHOFF
300 SOUTH WACKER DRIVE, 32ND FLOOR
CHICAGO, IL 60606
(312)913-0001

depositing a layer of indium on a second mating surface such that the layer of gold is in excess of the layer of indium; and

pressing the first mating surface and the second mating surface together, thereby pressing the layer of gold to the layer of indium, thereby forming a gold-indium alloy to serve as the bond between the members of the MEMS.

17. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together includes a Solid-Liquid InterDiffusion (SLID) bonding process.

18. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done at a temperature between about 20°C to about 200°C.

19. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch.

20. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done for about 6 hours.

21. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch and at a temperature of about 100°C.



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HULBERT & BERGHOFF
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CHICAGO, IL 60606
(312)913-0001

22. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done at a pressure of about 2 pounds per square inch and is done for about 6 hours.

23. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done for about 6 hours at a temperature of about 100°C.

24. (Original) The method of Claim 16, wherein the layer of gold has a thickness between about 100 Angstroms to about 0.25 inches.

25. (Original) The method of Claim 16, wherein the layer of indium has a thickness between about 50 Angstroms to about 0.125 inches.

26. (Original) The method of Claim 16, wherein the members of the MEMS are selected from the group consisting of a substrate, a micro-machine, a cover, and a micro-machine chip.

27. (Original) The method of Claim 16, wherein the cover is comprised of a material selected from the group consisting of a silicon, a glass and a ceramic material.

28. (Original) The method of Claim 16 further comprising depositing a first layer of mating material on the first mating surface and depositing a second layer of mating material on the second mating surface prior to depositing the layer of gold on the first mating surface and depositing the layer of indium on the second mating surface.



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CHICAGO, IL 60606
(312)913-0001

29. (Original) The method of Claim 28, wherein the first layer of mating material and the second layer of mating material are comprised of layers of chromium each having a thickness between about 5 Angstroms to 100 Angstroms.

30. (Original) The method of Claim 16, wherein pressing the first mating surface and the second mating surface together is done using an effective amount of pressure and temperature, for an effective amount of time to form the gold-indium alloy to serve as the bond between the members of the MEMS.

Claims 31-46. (Cancelled)

47. (Previously presented) The method of Claim 16, wherein a thickness of the layer of gold is approximately twice a thickness of the layer of indium.

48. (Previously presented) The method of Claim 16, further comprising depositing a layer of gold on the second mating surface prior to depositing the layer of indium on the second mating surface.

49. (Previously presented) The method of Claim 48, wherein depositing the layer of indium on the second mating surface such that the layer of gold is in excess of the layer of indium comprises depositing an amount of indium on the second mating surface such that the amount of indium is less than the combined thickness of the layers of gold on the first and second mating surfaces.



McDONNELL BOEHNEN
HULBERT & BERGHOFF
300 SOUTH WACKER DRIVE, 32ND FLOOR
CHICAGO, IL 60606
(312)913-0001